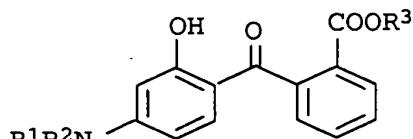


We claim:

1. A process for the preparation of 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic esters of the formula I,

10



I

15 in which the substituents, independently of one another, have the following meanings:

R¹ and R²

20

are C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>10</sub>-cycloalkyl;

25 R³ is C<sub>1</sub>-C<sub>12</sub>-alkyl, C<sub>3</sub>-C<sub>10</sub>-cycloalkyl

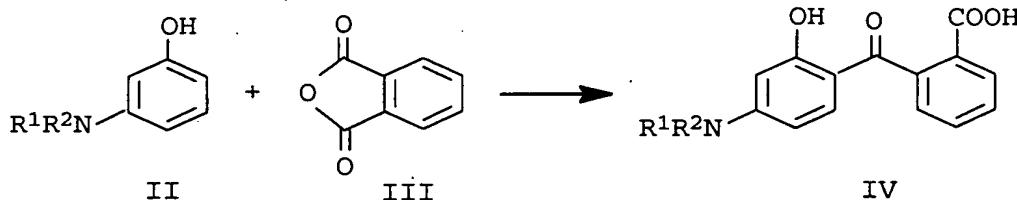
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I. reaction of 3-N,N-dialkylaminophenol of the formula II, in which R¹ and R² have the meanings given above, with phthalic anhydride of the formula III to give 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV and

30

35



III

IV

40

II. subsequent esterification of the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV formed in stage I with a C<sub>1</sub>-C<sub>12</sub>-alcohol or a cyclic C<sub>3</sub>-C<sub>10</sub>-alcohol in the presence of an acidic catalyst to give the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I,

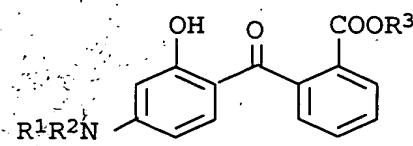
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IV

 $H^+$ 

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which comprises purifying the ester of the formula I formed in a further process stage III by treatment with an adsorbent and/or by distillation.

15 2. A process as claimed in claim 1, wherein the adsorbent is a substance chosen from the group consisting of activated carbons, aluminum oxides, zeolites and silica gels.

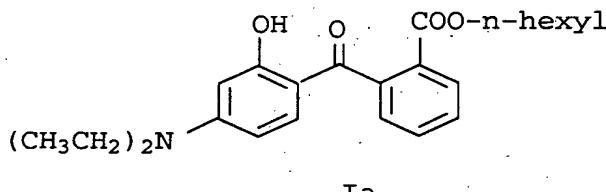
15 3. A process as claimed in claim 1 or 2, wherein the esterification in the process stage II is carried out in the presence of sulfuric acid as catalyst.

20 4. A process as claimed in any of claims 1 to 3, wherein the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I formed is crystallized prior to the treatment with an adsorbent and/or distillation.

25 5. A process as claimed in any of claims 1 to 4, wherein the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I formed comprises less than 10 ppm of rhodamine.

30 6. A process as claimed in any of claims 1 to 5, wherein the benzoic ester is n-hexyl 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoate of the formula Ia

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40 7. A process as claimed in any of claims 1 to 6, wherein, in the process stage III, the adsorbent used is activated carbon or silica gel.

45 8. A process as claimed in claim 7, wherein, in process stage III, the ester is purified by treatment with activated carbon and subsequent distillation.

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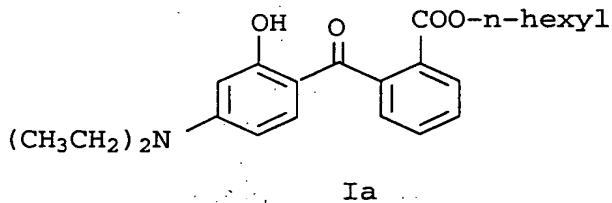
9. A process as claimed in claim 8, wherein, in the process stage III

- 5        a. the ester is dissolved in a nonpolar solvent at a temperature in the range from 10°C to 100°C,
- 10      b. this solution is passed over a granular activated carbon bed at a temperature in the range from 20°C to 100°C,
- 15      c. the ester, after passing through the granular activated carbon bed, is separated off from the solvent by distillation.

10. A process as claimed in claim 9, wherein the solvent used in  
15       the process step IIIa is cyclohexane or toluene.

11. A process for the preparation of n-hexyl 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoate of the formula Ia

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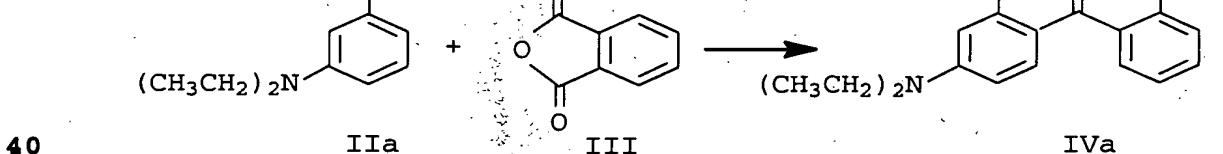


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30      I. reaction of 3-N,N-diethylaminophenol of the formula IIa with phthalic anhydride of the formula III to give 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoic acid of the formula IVa,

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45      II. esterification of the 2-(4-N,N-diethylamino-2-hydroxybenzoyl)benzoic acid of the formula IVa formed in stage I in hexanol in the presence of sulfuric acid to give n-hexyl

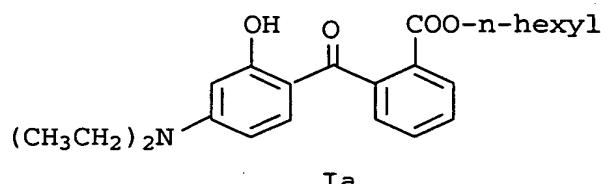
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2-(4-N,N-diethylamino-2-hydroxy)benzoyl)benzoate of the formula Ia

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hexanol/H<sup>+</sup>  
IVa →



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and isolation of the n-hexyl ester Ia in crystalline form,

III.

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- a. dissolution of the n-hexyl ester Ia in toluene or hexanol at a temperature in the range from 25°C to 50°C,
- b. metering of this solution over a granular activated carbon bed or a silica gel bed at a temperature in the range from 25°C to 50°C and
- c. subsequent isolation of the n-hexyl ester by separating off the toluene and/or hexanol by distillation.

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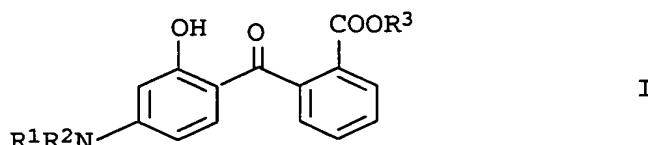
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Preparation of 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic esters

5 Abstract

The invention relates to a process for the preparation of 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic esters of the formula I,

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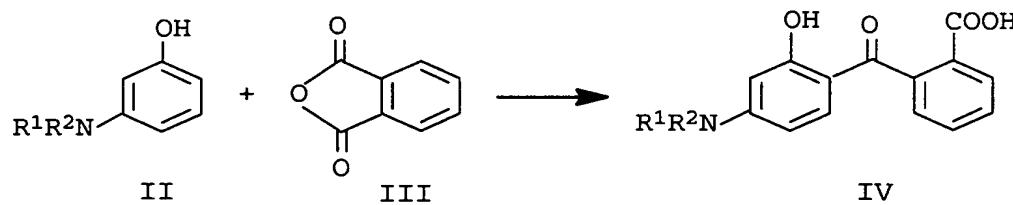
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in which the substituents R<sup>1</sup> to R<sup>3</sup>, independently of one another, have the meanings given in the description by:

20

I. reaction of 3-N,N-dialkylaminophenol of the formula II with phthalic anhydride of the formula III to give 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV and

25



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II. subsequent esterification of the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic acid of the formula IV formed in stage I with a C<sub>1</sub>-C<sub>12</sub>-alcohol or a cyclic C<sub>3</sub>-C<sub>10</sub>-alcohol in the presence of an acidic catalyst to give the 2-(4-N,N-dialkylamino-2-hydroxybenzoyl)benzoic ester of the formula I,

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which comprises purifying the ester of the formula I formed in a further process stage III by treatment with an adsorbent and/or by distillation.

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